Center for Applied Molecular Genetics Selection

Director: Dr. Robert L. Park, Brigham Young University, Provo, Utah
Phone 378-6871, Fax 378-4211, email robert_park@byu.edu

Background

Established in 1995, the main focus of the center is to find specific DNA probes related to economically important qualitative and quantitative genetic traits in domesticated animals, e.g., cattle and pigs. DNA markers for traits such as back-fat thickness, feed conversion efficiency, and growth rate are of interest for swine, whereas in dairy cattle markers for annual milk and protein yield traits are being researched.

Technology Development Progress

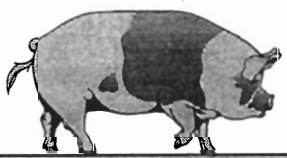
Useful DNA based probes are being developed and screened. The technologies including random amplified polymorphic DNA (RAPD), restriction fragment length polymorphisms (RFLP) and polymerase chain reaction (PCR). The objective is to identify probes that correlate with useful qualitative and or quantitative traits. The year's effort has yielded 28 promising genetic markers.

*See newspaper article on page 46

To date, **swine markers showing correlations with specific traits are: back-fat (9), feed intake (4), and growth rate (11).** The search for DNA markers in dairy cattle to correlate with milk and protein yield and shoulder stature is in progress.

Highlights and Accomplishments

The economic value of the DNA markers and the methods for detecting them lies in the ability to identify desirable breeding animals before they mature and produce offspring thus reducing breeding costs significantly. Contacts with key swine and cattle breeding companies are being pursued and there are early indications of significant interest when the technology has been validated. Commercialization opportunities in other areas are also under investigation.



Summary Data:

Current

1995-96 Award	$80,000
Matching Funds	$619,490
Patents Pending	0
Patents Issued	0
License Agreements	0
Spin-off Companies	0
Companies Assisted	6
Industry Jobs	0
Center Jobs	8

Cumulative

Awards	$100,000
Matching Funds	$619,490
Patents Issued	0
License Agreements	0
Spin-off Companies	0